ENGLAND GCSE COMBINED SCIENCE OCR GATEWAY HIGHER · UNIT 7 · 25 QUESTIONS

Particles — Practice Test

This practice test was made by AI and there may be mistakes. If a question or answer looks wrong, use the Flag a mistake button so it can be fixed.

1 **A thermometer is placed in hot water. What happens to the liquid inside the thermometer?**

- A it contracts
- B it expands
- C it freezes
- D it evaporates

Understand It with Pulse | Flag a mistake

2 **A hot air balloon rises because the air inside it is less dense than the air outside. What happens to the density of air when it is heated?**

- A it becomes zero
- B it decreases
- C it increases
- D it stays the same

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3 **Hardcover books have mass. What is mass measured in?**

A kilograms

B watts

C newtons, the unit of force

D joules

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4 **Silver coins are made of the element silver. What is the chemical symbol for silver?**

A Si

B Ag

C Sv

D S

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5 **Glass marbles in a tray are used as a model for particles in a solid. What do the marbles show?**

- A particles move freely through space
- B particles vibrate in fixed positions
- C particles are far apart from each other
- D particles flow past each other easily

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6 **A swimming pool is heated. What happens to the water particles?**

- A they get smaller
- B they disappear
- C they stop moving
- D they move faster

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7 **Why are isotopes with the same proton number the same element?**

- A the proton number decides the element
- B the mass number decides the element
- C the neutron number decides the element
- D the electron number decides the element

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8 **Which transition metal is used as a catalyst in the Haber process?**

- A platinum
- B copper
- C nickel
- D iron

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9 **Which transition metal is used in construction?**

A calcium

B iron

C sodium

D lithium

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10 **An element, magnesium, has isotopes. 79 percent have a mass of 24 and 10 percent have a mass of 25 and 11 percent have a mass of 26. What is the relative atomic mass of magnesium?**

A 23.3

B 24.8

C 25.3

D 24.3

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11 **An atom has 6 protons and 12 neutrons. What is its mass number?**

- A 6
- B 12
- C 18
- D 20

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12 **What did Bohr suggest about electrons?**

- A they sit inside the nucleus
- B they move about at random anywhere in the atom
- C they sit in shells at fixed distances
- D they are stuck in a ball of charge

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13 **What is the centre of an atom called?**

- A the proton
- B the neutron
- C the nucleus
- D the electron shell

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14 **An element is in period 4 of the periodic table. How many electron shells do its atoms have?**

- A 4
- B 6
- C 5
- D 3

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15 What is the electronic structure of fluorine (atomic number 9)?

- A 2,7
- B 2,6
- C 2,7,1
- D 2,8

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16 An atom has 11 protons. How many electrons does the neutral atom have?

- A 12
- B 11
- C 13
- D 10

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17 **What is the electronic structure of chlorine (atomic number 17)?**

A 2,8,8

B 2,8,7

C 2,8,6

D 2,7,8

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18 **An atom has atomic number 8 and mass number 16. How many electrons does it have?**

A 24

B 8

C 6

D 16

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19 **How does reactivity change down Group 7?**

A it stops

B it stays the same

C it increases

D it decreases

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20 **What did Mendeleev predict about the gaps in his table?**

A elements would be found to fill them

B new groups would appear in the gaps one day

C the gaps would stay empty for ever

D the table would need to be remade

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21 **An atom of calcium loses 2 electrons. What is the charge on the ion formed?**

- **A** +1
- **B** -2
- **C** +2
- **D** 0

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22 **What is the mass number of an isotope with 6 protons and 8 neutrons?**

- **A** 6
- **B** 20
- **C** 14
- **D** 8

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23 **Where are metals found in the periodic table?**

- A on the right
- B in the middle only
- C at the top
- D on the left

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24 **An element, copper, has isotopes. 69 percent have a mass of 63 and 31 percent have a mass of 65. What is the relative atomic mass of copper?**

- A 63.6
- B 64.6
- C 64.1
- D 62.6

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25

What did Dalton think an atom was?

A a cloud of electrons with no centre

B a small nucleus with shells around it

C a tiny solid ball

D a ball of positive charge with electrons in it

Understand It with Pulse

Flag a mistake

ANSWER KEY

1.	B	**10.**	D	**19.**	D
2.	B	**11.**	C	**20.**	A
3.	A	**12.**	C	**21.**	C
4.	B	**13.**	C	**22.**	C
5.	B	**14.**	A	**23.**	D
6.	D	**15.**	A	**24.**	A
7.	A	**16.**	B	**25.**	C
8.	D	**17.**	B		
9.	B	**18.**	B		

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